

II. Remarks

Claims 1-14 were pending in this application and were rejected. The present amendment amends Claim 1-14 to correct minor typographical errors and to more particularly point out and clarify Applicants' invention. No new matter has been added by the present amendment. After this amendment, Claims 1-14 will be pending.

Reconsideration of the application in view of the above amendments and following remarks is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1-2, 4-6 and 10-14 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. No. 5,499,840 issued to Nakano ("Nakano"). In view of the amendments and remarks contained herein, Applicants respectfully submit that the rejections of Claims 1-2, 4-6 and 10-14 are traversed.

Claim 1 has been amended to recite that a sensor and control arrangement is connected to the first and second air-bag units. The sensor and control arrangement is configured to generate actuation signals capable of actuating only one of the first and second air-bag units that is closest to the point of impact. Support for these amendments may be found in Applicants' application at paragraphs [0031]-[0036] and Figure 3.

Nakano discloses an air-bag arrangement for a motor vehicle that has two adjacent front seats 20A and 20B, *Nakano* at Col. 2, lines 52-56. Each seat 20A

and 20B comprises a seat back frame 22 with a horizontally extending reinforcing rod 23 secured to the seat back frame 22. The reinforcing rod 23 is equipped at the outwardly and inwardly projected portions 23a and 23b with outside and inside air-bag units 41 and 42, respectively. The outside air-bag unit 41 has an air-bag 40a that is inflated between the door 12a and a seat occupant, and the inside air-bag unit 42 has an air-bag 40b that is inflated between the seat occupant and the seat back 21 of the adjacent seat 20B or 20A. *Id* at Col. 3, lines 1-67.

In a first embodiment, the left and right side doors 12a and 12b of the vehicle have first collision sensors 51a and 51b, respectively. The first collision sensors 51a and 51b are connected with a control unit for inflation of the air-bag 40a of the outside air-bag unit 41 when a side vehicle collision is detected. Within the inside lateral projections of the two seats 20A and 20B, there are installed second collision sensors 52a and 52b. These sensors 52a and 52b detect a hard collision of the inside lateral projection 21b of the seat 20A against the inside lateral projection 21b of the other seat 20b. Because the movement of the reinforcing rod is affected after the side door 12a or 12b abuts against the outside lateral projection 21a of the seat, the second sensor 52a or 52b is forced to issue a signal slightly after the first sensor 21a or 21b issues a collision signal to inflate the air-bag 40b of the inside air-bag unit 42. For example, upon a left side collision the collision sensor 51a senses the collision and thus instantly inflates air-bag 40a of the outside air-bag unit 41 through a gas generator 44 and due to the collision of the left side door 12a against the outside lateral projection 21a of the driver's seat 20A, the reinforcing rod 23 of the seat 20A is forced to move inwardly causing a collision of the inside lateral

projection 21b of the seat 20A against a projection 21b of the other seat 20B. The collision of the two inside lateral projections 21b is sensed by the second sensor 52a and thus, the air-bag 40b of the inside air-bag unit 42 is instantly inflated via the gas generator 44. *Id.* at Col. 4, lines 1-68. Notably in this first embodiment, the control unit forms a connection between only the first collision sensors 51a and 51b and the outside air-bag units 41, and both the outside and inside air-bag units 41 and 42 of a corresponding seat 20A or 20B deploy the outside and inside air-bags 40a and 40b during a side impact event.

In a second embodiment, the four air-bag units 41 and 42 of the two seats 20a and 20b are controlled by a common control unit to which the four collision sensors 51a, 52a, 51b and 52b are all connected. Upon a side collision applied to for example the left side door 12a, the outside air-bag 40a of the left seat 20A and inside air-bag 40b of the right seat 20B are inflated first, and then the inside air-bag 40b of the left seat 20A and the outside air-bag 40a of the right seat 20B are inflated. *Id.* at Col. 5, lines 1-20. Notably in this embodiment, the control unit forms a connection between the first and second collision sensors 51a, 52a, 51b and 52b and the outside and inside air-bag units 41 and 42 of both seats 20A and 20B. As in the first embodiment, both the outside and inside air-bag units 41 and 42 of a corresponding seat 20A or 20B deploy the outside and inside air-bags 40a and 40b during a side impact.

This is unlike Applicants invention as recited in Claim 1 where a sensor and control arrangement is connected to the first and second air-bag units and is configured to sense a side impact of the vehicle and to generate actuation signals

capable of actuating only one of the air-bag units that is closest to the point of impact. In particular, Nakano discloses that both the outside and inside air-bag units 41 and 42 of a corresponding seat deploy air-bags 40a and 40b in a side impact, where Applicants' invention deploys one air-bag for a corresponding seat from only the air-bag unit that is closest to the point of impact. In that Nakano lacks the noted elements of Claim 1, Applicants respectfully submit that the rejections based thereon should be withdrawn. Accordingly, Applicants believe that Claim 1 and its dependent Claims 2, 4-6 and 10-14 are in a condition for allowance.

Moreover, Claims 12 and 13 are also believed to be allowable for their own specific elements recited therein. Claim 12 recites that the support element is moveable relative to the vehicle seat upon actuation of the inboard air-bag from an initial position to a first operative position. Claim 13 recites that the support element is resiliently deformable and is configured to yield relative to the vehicle seat under force exerted thereon by weight of the occupant during a side impact.

Nakano fails to disclose the limitations recited in Claims 12 and 13. Specifically, the reinforcing rod 23 is made of rigid metal and is secured to the seat back frame 22. *Nakano* at Col. 3, lines 15-20. During a side collision, both the reinforcing rod 23 and the vehicle seat 20A or 20B are moved inwardly by the impacted side door 12a or 12b. *Id.* at Col. 4, lines 46-54. There is no disclosure that the reinforcing rod 23 moves relative to the seat 20A or 20B. Rather, the rigid metal structure of the reinforcing rod 23 secured to the seat back frame 22 suggests that the rod 23 and the vehicle seat 20A or 20B move together upon actuation of the inboard air-bag. Moreover, Nakano fails to disclose that the reinforcing rod 23 yields

relative to the vehicle seat 20A or 20B under force by the weight of the occupant during a side impact. Rather, it is the force of the impacted side door 12a or 12b that abuts and moves the reinforcing rod 23, and the rigid metal structure of the reinforcing rod 23 secured to the seat back frame 22 suggests that the force by weight of the occupant is insufficient to cause the reinforcing rod 23 to yield relative to the vehicle seat 20A or 20B. Accordingly, Claims 12 and 13 are believed to be allowable for both their dependency on Claim 1 and their own specific elements recited therein.

Rejections under 35 U.S.C. § 103

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of U.S. Pat. No. 6,123,357 issued to Hosoda, et al. ("Hosoda"). In view of the amendments and remarks contained herein, Applicants respectfully submit that the rejection of claim 3 is traversed.

Since Claim 3 depends on Claim 1 and since Hosoda fails to disclose a sensor and control arrangement connected to the first and second air-bag units and configured to generate actuation signals capable of actuating only one of the first and second air-bag units that is closest to the point of impact, the combination of Nakano and Hosoda cannot render the claim of the present invention as obvious. The rejection under section 103(a) is therefore improper and should be withdrawn.

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of United Kingdom Patent Application No. GB-2309440 ("GB '440").

In view of the amendments and remarks contained herein, Applicants respectfully submit that the rejection of Claim 7 is traversed.

Since Claim 7 depends on Claim 1 and since GB '440 fails to disclose a sensor and control arrangement connected to the first and second air-bag units and configured to generate actuation signals capable of actuating only one of the first and second air-bag units that is closest to the point of impact, the combination of Nakano and GB '440 cannot render the claim of the present invention as obvious. The rejection under section 103(a) is therefore improper and should be withdrawn.

Claims 8-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakano in view of U.S. Pat. No. 5,531,470 issued to Townsend ("Townsend"). In view of the amendments and remarks contained herein, Applicants respectfully submit that the rejections of Claims 8-9 are traversed.

Since Claim 8-9 depend on Claim 1 and since Townsend fails to disclose a sensor and control arrangement connected to the first and second air-bag units and configured to generate actuation signals capable of actuating only one of the first and second air-bag units that is closest to the point of impact, the combination of Nakano and Townsend cannot render the claims of the present invention as obvious. The rejections under section 103(a) are therefore improper and should be withdrawn.

Accordingly, Applicants believe that Claims 3, 7-9 are in a condition for allowance.

Conclusion

In view of the above amendments and remarks, it is respectfully submitted that the present form of the claims are patentably distinguishable over the art of record and that this application is now in condition for allowance. Such action is requested.

Respectfully submitted,

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